REMARKS

SUMMARY

Reconsideration of the application is respectfully requested.

Claims 1-33 have been rejected. Claims 1-10, 28, and 32-33 have been cancelled without prejudice. Claims 17, 24, 27, 29 and 31 have been amended. New claims 34-37 have been added. All amendments are fully supported by the original disclosure; in particular, new claims 34-37 are supported by, e.g., lines 16-18 on page 4, and lines 1-6 on page 6 of the present application. No new matter has been introduced. Accordingly, claims 11-27, 29-31, and 34-37 remain pending in the application.

Claim Rejections under 35 U.S.C. § 101

In "35 USC § 101," item 2 on page 2 of the above-identified Office Action, claims 1-33 have been rejected for claiming non-statutory subject matter. On page 3, the Examiner asserts that the phrases "platform adaptation", "platform's execution of the workload", "configure the platform", and "being executed by a platform sufficiently resembles" are all abstract concepts and have no practical application. Applicant respectfully disagrees.

The rejections of claims 1-10, 28, and 32-33 are obviated by their cancellations.

The phrases "platform adaptation" and "configure the platform" are well known to those of ordinary skill in the art of computing and commonly employed by them to convey the customization, adjustment, alteration and so forth of a module, component, or system. A quick search of Google shows over 8,380,000 hits for the phrase "platform adaptation". The top hits include an announcement by Microsoft Corporation of their TV Platform Adaptation Kit, and an article by Jeremy Johnson of Drexel University on "Platform Adaptation of Signal Processing Algorithm (See Attachment A). Similarly, a quick search of Google shows over 45,000 hits for "config* platform". The top hits include "platform configuration" instructions by Parrot System, and "platform configuration" instructions by OOMMF (See

Attachment B). Thus, the phrases clearly convey concrete operations and not just abstract ideas.

The phrase "platform's execution of the workload" is also well known to those of ordinary skill in the art of computing and commonly employed by them to convey the process of carrying out the instructions in a computer program or a computational task by a system. A quick search of Google shows over 1,340,000 hits for the phrase "platform workload execution". The top hits include an announcement by Sun Corporation of their Scalable Platform for Optimal Workload and Application Performance, and an article by Derek Uluski, et al. of Northeastern University on "Characterizing Antivirus Workload Execution" (on an Intel Pentium IV platform). Thus, the phrase clearly conveys concrete operations and not just abstract ideas.

The phrase "being executed by a platform sufficiently resembles" is well known to those of ordinary skill in the art of computing testing and commonly employed by them to convey the close similarity between a computer program or a computational task being carried out by a system and another computer program or computational task. A quick search of Google shows over 251,000 hits for the phrase "workload resembles". The top hits include an article by Philip Joung of Spirent Communications Inc. on "General Network Performance Testing Methodology" (using a workload that resembles a production network's traffic), and an article by Baiyi Song, et al. of University of Dortmund, Germany on "Modeling of Parameters in Supercomputer Workloads" (determining whether a workload resembles a certain other workload and training the model accordingly). Thus, the phrase clearly conveys concrete operations and not just abstract ideas.

Accordingly, Applicant submits that claims 11-27 and 29-31 reciting the above phrases are indeed patentable under §101. Thus, Applicant requests that the Examiner withdraw the §101 rejection of claims 11-27 and 29-31 and allow the claims.

Claim Rejections under 35 U.S.C. § 102

In "Claim Rejections – 35 USC § 102," item 3 on pages 3-4 of the above-identified Office Action, claims 1, 3-5, 7-9, and 13-33 have been rejected as being anticipated by *Reinemann*, U.S. Patent Publication No. 2003/0115118 under 35 U.S.C. § 102(b).

1.   Cancelled Claims:

The rejections of claims 1, 3-5, 7-9, 28, and 32-33 are obviated by their cancellations.

2.   Claims 13-16, 21-27, and 29-31

Claim 11 has not been rejected as being anticipated by Reinemann under "Claim Rejections – 35 USC § 102." Claims 13-16 depend from claim 11, incorporating its limitations. Accordingly, for at least the same reasons that Reinemann fails to anticipate claim 11, Reinemann fails to anticipate claims 13-16.

Claim 21 and amended claims 27 and 31 recite limitations similar to those of claim 11. Accordingly, for at least the same reasons, Reinemann fails to anticipate claims 21, 27 and 31.

Claims 22-23, amended claim 29, and claim 30 depend from claim 21 and amended claim 27, respectively, incorporating their limitations. Accordingly, for at least the same reasons, Reinemann fails to anticipate claims 22-23 and 29-30.

3.   Claims 17-20, and 24-26

Claim 17, as amended, recites "In a system, a method of operation comprising:

generating a lookup index to a table of configuration parameter values, based at least in part on one or more performance events observed in associated with a platform's execution of a workload; and

selecting one of one or more pre-established sets of <u>configuration parameter values,</u> <u>based</u> at least in part <u>on the generated lookup index,</u> for application <u>to configure the</u> <u>platform.</u>"

In contrast, Reinemann does not teach "<u>generating a lookup index to a table of</u> <u>configuration parameter values, based at least in part on one or more performance events</u> <u>observed in associated with a platform's execution of a workload</u>". Reinemann teaches that resource utilization of a processor is monitored by collecting performance status and archiving them in a log file (Reinemann, paragraph [0011]). Reinemann simply teaches that the performance status may be stored in the log file as they are collected at a pre-determined time interval (Reinemann, paragraph [0011]), which may be simply accomplished by writing to the log file with a timestamp. However, writing into a file even with a timestamp is not the same as generating a lookup index to a table of configuration parameter values. Reinemann does not disclose, expressly or inherently, the generating of a lookup index to a table of configuration parameter values, through archiving performance status. Accordingly, the archiving operation of Reinemann in no way generates a lookup index to a table of configuration parameter values and, thus, fails to anticipate claim 17 in as complete of detail as is claimed.

Claims 18-20 depend from amended claim 17, incorporating its limitations. Accordingly, for at least the same reasons, Reinemann fails to anticipate claims 18-20.

Amended claim 24 recites limitations similar to those of amended claim 17. Accordingly, for at least the same reasons, Reinemann fails to anticipate claim 24.

Claims 25-26 depend from amended claim 24, incorporating its limitations. Accordingly, for at least the same reasons, Reinemann fails to anticipate claims 25-26.

Claim Rejections under 35 U.S.C. § 103

1.   In "Claim Rejections – 35 USC § 103," item 4 on page 17 of the above-identified Office Action, claims 2 and 10 have been rejected as being unpatentable over *Reinemann*, in view of *Sato*, U.S. Patent Publication No. 2002/0174389 and further in view of *Chapple*, U.S. Patent Publication No. 2002/0172320 under 35 U.S.C. § 103(a).

The rejections of claims 2 and 10 are obviated by their cancellations.

2.   In "Claim Rejections – 35 USC § 103," item 5 on page 19 of the above-identified Office Action, claims 6, 11, and 12 have been rejected as being unpatentable over *Reinemann*, and further in view of *Chiu*, U.S. Patent Publication No. 2002/0186658 under 35 U.S.C. § 103(a).

i. Claim 6

The rejection of claim 6 is obviated by its cancellation.

ii. Claims 11-12

Claim 11 recites "In a system, a method of operation comprising:

determining whether a workload executed or being executed by a platform resembles a reference workload, based at least in part on one or more performance events observed from monitoring the platform's execution of the workload; and

if the workload is determined to resemble the reference workload, performing a selected one of

selecting a set of one or more configuration parameter values pre-selected for the platform to execute the resembled reference workload, and

providing information about the determined resembled reference workload to facilitate the selection of the set of one or more configuration parameter values pre-selected for the platform to execute the determined resembled reference workload."

The present invention, as claimed in claim 11, teaches a method of determining whether a workload executed or being executed by a platform resembles a reference workload, and selecting a set of configuration parameter values pre-selected for a platform to execute the resembled reference workload. The selected set of configuration parameter values are used to reconfigure the platform for optimal performance.

In contrast, Reinemann does not teach or suggest at least the recitations of claim 11. Reinemann simply stands for resource sharing among a network of processors, where a policy manager of a processor may decide to share one or more of its resources based on a resource utilization threshold set by a policy (Reinemann, paragraph [0012]). The only comparison necessary to achieve Reinemann's purpose - optimized resource utilization among the processors of the network - is between the performance of a system resource (such as memory utilization) and thresholds dictating whether the resource ought to be sharable. Determining whether any given set of instructions (workload) executing on one of the processors resembles a "reference set", as is claimed in claim 11, has nothing to do with Reinemann's purpose. Consequently, one skilled in the art would not think to compare instructions executing on the processor to a reference set of instructions, as doing so would not help in determining whether a resource is being fully utilized.

Chiu likewise does not teach or suggest the recitations of claim 11. Instead, Chiu teaches selectively off-loading an appropriate amount of traffic from congested sub-regions of a network to more lightly loaded sub-regions of the network, thus permitting effective utilization of network resources (Chiu, paragraph [0006]). Chiu also does not address the determining of whether a reference workload resembles the executing workload. Chiu is merely concerned with optimizing the balance of traffic among sub-regions of a network. Determining whether any given set of instructions (workload) executing in one of the sub-

regions resembles a "reference set", as is claimed in claim 11, has nothing to do with Chiu's purpose. Consequently, one skilled in the art would not think to compare instructions executing in one of the sub-regions to a reference set of instructions, as doing so would not help in determining whether traffic is balanced between the sub-regions.

Therefore, Reinemann and Chiu, individually or combined, failed to teach or suggest the limitation of claim 11. Accordingly, claim 11 is patentable over Reinemann and Chiu, alone or in combination.

Claim 12 depends from claim 11, incorporating its limitations. Accordingly, for at least the same reasons, claim 12 is patentable over Reinemann and Chiu, alone or in combination.

References Disclosed by IDS Section

Two references are disclosed in the attached IDS form, i.e., *Caccavale*, U.S. Patent No. 5,835,756 (hereinafter, Caccavale) and *Blake*, U.S. Patent No. 6,067,412 (hereinafter, Blake). Applicant respectfully submits that the pending claims are patentable over Caccavale and Blake for at least the reasons given below.

1.   Claim 11 and Related Claims

Caccavale does not teach or suggest the above stated limitations of claim 11 of the present invention. Caccavale simply teaches dynamically tuning parameters of a server based on the workload that the server is currently executing (Caccavale, column 2, lines 60-63; column 3, lines 3-8). Caccavale accomplishes this tuning by inputting the current workload into "microlevel" algorithms targeted for specific parameters (e.g., if the workload is X, then data cache should be Y, wherein Y=F(X)). Thus, while both claim 11 of the present invention and Caccavale teach the selection of configuration parameter values in response to performance events associated with the currently executing workload, Caccavale accomplishes the selection and application of the parameter values by evaluating the

workload in view of one or more algorithms instead of by comparing the currently executing workload to a reference workload.

Blake likewise does not teach or suggest the recitations of claim 11. Blake simply teaches determining a workload during execution of a specified computer program, predicting the program's performance using the determined workload, identifying a bottleneck system resource, selecting and modifying a system resource to reduce utilization of the bottleneck system resource, thus improving the program's performance (Blake, column 2, lines 26-67). However, Blake is not concerned with and does not address at least the determining of whether an executing workload resembles a reference workload.

Claim 21, amended claim 27, and claim 31 recite limitations similar to those of claim 11. Accordingly, for at least the same reasons, claims 21, 27, and 31 are patentable over Caccavale and Blake, alone or in combination. Claims 12-16 and 34-35, claims 22-23, amended claim 29, and amended claim 30 depend from claims 11, 21, and 27, respectively, incorporating their limitations. Accordingly, for at least the same reasons, claims 12-16, 22-23, 29-30, and 34-35 are patentable over Caccavale and Blake, alone or in combination.

2.   Claim 17 and Related Claims

Caccavale does not teach or suggest the above recited limitations of amended claim 17 of the present invention. Caccavale teaches mapping the current values of the monitored workload, resource utilization, and server performance onto a three-dimensional surface for determining the current server status and predicting future performance information of the server (Caccavale, column 3, lines 55-67; column 4, lines 1-3). Caccavale is not concerned with and does not address at least the generating of a lookup index to a table of configuration parameter values based on the server performance observed. The mapping function of Caccavale is simply for displaying and predicting performance, not for facilitating the selection of server parameters to tune the server.

Similarly, Blake does not teach or suggest the above recited limitations of amended claim 17 of the present invention. Blake teaches determining a workload during execution of a specified computer program based on the performance measurements received (Blake, column 2, lines 26-33). Blake is not concerned with and does not address the generating of a lookup index to a table of configuration parameter values based on the performance measurements received, and is simply directed to determining the workload.

Amended claim 24 recites limitations similar to those of amended claim 17. Accordingly, for at least the same reasons, claim 24 is patentable over Caccavale and Blake, alone or in combination. Claims 18-20, 36-37, and 25-26 depend from amended claims 17 and 24, incorporating their limitations respectively. Accordingly, for at least the same reasons, claims 18-20, 36-37, and 25-26 are patentable over Caccavale and Blake, alone or in combination.

Conclusion

Claims 11-27, 29-31, and 34-37 are believed to be in condition for allowance. Thus, a Notice of Allowance is earnestly solicited. Please contact the undersigned regarding any questions or concerns associated with the present matter. If any fees are due in connection with this paper, the Commissioner is authorized to charge Deposit Account 500393.

Respectfully submitted,

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